

WHAT IS CLAIMED IS:

1. Apparatus for detecting the position of a device, such as a smart pig, moving through a pipeline, the apparatus comprising means positioned at a first location above said pipeline for producing a first electrical signal in response to passage of said device through said pipe line at said first location and a second signal to activate a first global positioning system positioned at said first location to provide a third electrical signal indicating the position of said first location, and a second global positioning system positioned at a second selected, known location remote from said first location to provide a fourth electrical signal to correct said third electrical signal.
2. The apparatus of claim 1, wherein said means for producing said first electrical signal further includes means for collecting and storing said third and fourth electrical signals from the global positioning systems.
3. The apparatus of claim 2, wherein said first electrical signal may be activated by passage of said device through said pipeline at said first location.
4. The apparatus of claim 3, wherein said apparatus includes a computer for collecting said electrical signals, including collecting and carrier phased based double differencing said third and fourth electrical signals from said global positioning systems to provide a position signal of said first location and for integrating said first electrical signal indicative of said time and said position signal to provide an indication of the time of said device passing said position of said first location along said pipe line.

5. Apparatus for detecting the position of a device, such as a smart pig, moving through a pipe line, the apparatus comprising an above ground marker positioned at a first location above said pipe line, for producing, collecting and storing a first electrical signal in response to and indicative of a time of passage of said device through said pipeline at said first location and a second signal to activate a first global positioning system positioned at said first location to provide a third electrical signal indicating the position of said first location, a second global positioning system positioned at a selected, known location remote from said first location to provide a third electrical signal to correct said third electrical signal, and a computer for collecting said first signal and carrier phased based double differencing said third and fourth electrical signals from said global positioning systems to provide a position signal of said first location and for integrating said first electrical signal indicative of said time and said position signal to provide an indication of the time of said device passing said position of said first location.

6. The apparatus of claim 5, wherein means activated by said above ground marker are provided at said first location for real time broadcasting of time of passage of said device at said first location and said position of said first location to a remote monitoring site.

7. The apparatus of claim 6, wherein said means for real time broadcasting is activated by said above ground marker when said device passes said first location.

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